

What is claimed is:

[Claim 1] A device for control of display of video frames comprising
a receiving block for receiving a first analogue video signal of a first format;
a conversion block for conversion of the first analogue signal of the first format into a digital signal and connected to the receiving block;
a buffer controller of frames included in the digital signal connected to the conversion block and having frame buffers, a decoding frame controller and a displaying frame controller;
a video coder for transforming the digital signal into a second analogue signal of a second format;
a receiver for displaying the second analogue signal of the second format; and
a processor for data processing and controlling the receiving block, the conversion block, the buffer controller, the video coder and the receiver.

[Claim 2] A method for control of display of video frames comprising the steps of:
creating at least three frame buffers;
setting a current decoder buffer chosen from the frame buffers;
fetching of data of frames from a first analogue video signal of a first format;
temporarily storing the data of the frames in the current decoder buffer;
setting a display buffer chosen from the frame buffers; and
reading data of a display frame from the display buffer and displaying the frame in a second video.

[Claim 3] The method according to claim 2, wherein the frame buffers are organized in a two-way list and wherein the last element of the two-way list is linked to the first element of the two-way list.

[Claim 4] The method according to claim 2, wherein the step of fetching and the storing of the data of the frames comprises the steps of
setting the current decoder buffer, to which the data of the frames will be decoded, to a first free buffer from the frame buffers;
awaiting for a bottom vertical synchronization signal in the first analogue video signal of the first format;
checking if a next buffer, in relation to the current decoder buffer, is being displayed, after the bottom vertical synchronization signal is detected;
setting the next buffer as the current decoder buffer when the next buffer is not being displayed;
detecting a top vertical synchronization signal in the first analogue video signal of the first format;
decoding of the data of the frame to the current decoder buffer; and
returning to the awaiting for the bottom vertical synchronization signal in the input video signal.

[Claim 5] The method according to claim 2, wherein the step of reading and displaying data comprises the steps of

awaiting for an appearance of a bottom vertical synchronization signal in an analogue output video signal;
setting a previous buffer in relation to the current decoder buffer as the display buffer after appearance of a bottom vertical synchronization signal;
awaiting for a top synchronization signal in the output video signal;
displaying the display buffer after detecting the top vertical synchronization signal in the output video signal; and
returning to the awaiting for the bottom vertical synchronization signal in the output video signal.

[Claim 6] A method for control of display of video frames comprising the steps of:

applying at least three frame buffers;
setting a current decoder buffer chosen from the frame buffers;
fetching of data of a frame from a first analogue video signal;
awaiting for a bottom vertical synchronization signal in the first analogue video signal;
checking if a next buffer, in relation to the current decoder buffer, is being displayed, after the bottom vertical synchronization signal is detected;
setting the next buffer as the current decoder buffer when the next buffer is not being displayed;
detecting a top vertical synchronization signal in the first analogue video signal;
decoding of the data of the frame to the current decoder buffer;
temporarily storing the data of the frame in the current decoder buffer;
returning to the awaiting for the bottom vertical synchronization signal in the first analogue video signal;
awaiting for an appearance of a bottom vertical synchronization signal in an analogue output video signal;
setting a previous buffer in relation to the current decoder buffer as the display buffer after appearance of the bottom vertical synchronization signal;
awaiting for a top synchronization signal in the analogue output video signal;
displaying the display buffer after detecting the top vertical synchronization signal in the analogue output video signal; and
returning to the awaiting for the bottom vertical synchronization signal in the analogue output video signal,
wherein the fetching-decoding and displaying processes are run concurrently and communicate with each other.

[Claim 7] The method according to claim 6, wherein the frame buffers are organized in a two-way list and wherein the last element of the two-way list is linked to the first element of the two-way list.